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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Wendy C. Grande et al.

Application No.: 10/044,147

Filed: **January 11, 2002**

For: **INTEGRATED FUEL CELL AND
ELECTROCHEMICAL POWER
SYSTEM EMPLOYING THE SAME**



Art Unit: 1746

Examiner: to be assigned

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TC 1700

PETITION TO MAKE SPECIAL

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

INTRODUCTION

This is a Petition to Make Special the above identified patent application under 37 C.F.R. §1.102(c). This Petition is based on the Declaration of Jeffrey A. Colborn, the authorized representative of the Assignee, attached hereto as Exhibit A, the petitions to make special and corresponding decisions thereon for Assignee's related applications, attached hereto as Exhibit B, and the grounds set forth in 37 C.F.R. §1.102(c) and MPEP 708.02 V. and VI(B).

The Petition should be granted, and the application accorded special status, for three distinct reasons. First, as set forth in the Declaration, the application meets the criteria of MPEP 708.02 V. Second, as also set forth in the Declaration, the application meets the criteria of MPEP 708.02 VI(B). Third, a decision according the application special status is supported by the numerous decisions on petitions according special status to all of the related applications of the Assignee. These points are explained further as follows:

I. THE APPLICATION MEETS THE CRITERIA OF MPEP 708.02 V

As set forth in the attached Declaration, the application meets the criteria of MPEP 708.02 V for at least the following reasons:

1. By replacing polluting diesel generators as backup power sources for buildings, the regenerative fuel cell system of the invention is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air. (Supp. Decla. ¶2).

2. By replacing diesel generators, the regenerative fuel cell system is also expected to eliminate the need for lubricating oil for diesel generators, and therefore materially enhance the quality of the environment by contributing to the restoration and maintenance of water. (Supp. Decla. ¶3).

3. By replacing lead/acid batteries, the regenerative fuel cell system is also expected to materially enhance the quality of the environment by reducing the damage to the earth caused by the mining of lead, thereby contributing to the restoration and maintenance of the soil. (Supp. Decla. ¶4).

4. By enabling solar/wind power to replace power plants as the primary energy source for a substantial number of homes and businesses, the regenerative fuel cell system is expected to materially enhance the quality of the environment by contributing to the restoration or maintenance of the air. (Supp. Decla. ¶¶5-6).

5. By increasing the efficiency of the power grid, the regenerative fuel cell system is expected to result in introduction of less pollutants into the air since less fossil fuel needs to be burned to provide the same power output. Consequently, the system is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air. (Supp. Decla. ¶¶7-10).

**II. THE APPLICATION MEETS THE CRITERIA OF MPEP
708.02 VI(B)**

A second independent basis for according the application special status is that it meets the criteria of MPEP 708.02 VI(B). As set forth in the attached Declaration, the application meets these criteria for at least the following reasons:

1. The invention relates to a refuelable and regenerative fuel cell system in which a refuelable and regenerative fuel cell is interfaced to the power grid and to a energy controller in a home or business which controls one or more loads, e.g., elevators, lights, air conditioners, household appliances such as refrigerators, etc. During off-peak hours, when energy from the power grid is cheapest, the system may draw energy from the power grid in order to reprocess spent reaction solution and reaction products into metal fuel and fresh reaction solution. In addition, whenever energy is needed to drive the loads, the energy controller selectively draws energy from the regenerative fuel cell to drive the one or more loads in an energy efficient manner. For example, the controller can automatically turn off lights and air conditioners during off-business hours and power them up again during business hours. The ability of the system to store energy in the form of the fuel allows the two processes --the process of reprocessing spent reaction products and the process of driving one or more loads--to be decoupled from one another, i.e., performed substantially independently of one another. (Supp. Decla. ¶7).

2. The system is expected to increase the efficiency of the power grid in terms of wattage out divided by quantity of fossil fuel burned. The reason is that the system, because of its capability to store energy in the form of electrochemical fuel, and to decouple the processes of reprocessing spent reaction products and driving loads, is expected to result in more frequent use of base load power plants and less frequent use of peaking plants to drive the power grid. Since base load plants are more efficient than peaking plants, e.g., 60 % vs. 35 %, the result is an overall increase in the efficiency of the power grid. (Supp. Decla. ¶8).

3. To explain why this is so, consider a scenario such as a hot day where the demand exceeds the supply for power from base load power plants. Currently, the response to this

scenario will be to power up the less efficient peaking plants to fill the gap between demand and supply. However, with the regenerative fuel cell system, the response to this scenario is expected to be the use of the regenerative fuel cell to fill the gap between demand and supply. (Supp. Decla. ¶9).

4. The increased efficiency of the power grid means that the regenerative fuel cell system is expected to materially contribute to the reduction of energy consumption in combustion systems, industrial equipment, household appliances, etc. (Supp. Decla. ¶11).

III. A DECISION ACCORDING THE APPLICATION SPECIAL STATUS IS SUPPORTED BY THE NUMEROUS DECISIONS ACCORDING SPECIAL STATUS TO ASSIGNEE'S RELATED APPLICATIONS

A decision according the application special status is also supported by the decisions according special status to all of Assignee's related applications. These related applications consist of U.S.S.N. 09/353,422 (now U.S. Patent No. 6,162,555); 09/449,176 (now U.S. Patent No. 6,153,328); 09/521,392; 09/573,438; and 09/627,742. The petitions and the decisions on the petitions for these related applications are attached hereto as Exhibit B.

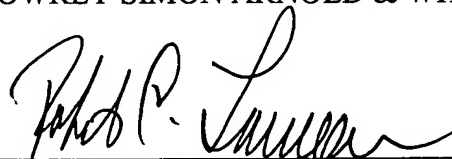
CONCLUSION

For all the foregoing reasons, this Petition is proper in all respects, and should be granted.

Applicant believes that no fee is due in connection with this Petition. However, if a fee is in fact due, the Commissioner is authorized to charge the same to our Deposit Account No. 08-3038, referencing Docket No. 04813.0017.NPUS01.

HOWREY SIMON ARNOLD & WHITE, LLP

Date: March 27, 2002

A handwritten signature in dark ink, appearing to read "Robert C. Laurenson", written over a horizontal line.

Robert C. Laurenson
Reg. No. 34,206

HOWREY SIMON ARNOLD & WHITE, LLP
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Menlo Park, CA 94025
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EXHIBIT A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Wendy Grande et al.

Application No.: 10/044,147

Filed: January 11, 2002

For: INTEGRATED FUEL CELL AND
ELECTROCHEMICAL POWER
SYSTEM EMPLOYING THE SAME



Group Art Unit: 1746

Examiner: to be assigned

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**DECLARATION OF ASSIGNEE IN SUPPORT OF
PETITION TO MAKE SPECIAL UNDER 37 C.F.R. §1.102(c)**

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

1. I, Jeffrey A. Colborn, am Chairman and Chief Executive Officer of Metallic Power, Inc., the assignee of the above-captioned patent application. In my capacity as Chairman/CEO of Metallic Power, I believe that the invention claimed in the above-captioned patent application will (a) materially enhance the quality of the environment of mankind by contributing to the restoration or maintenance of the basic life-sustaining natural elements, namely air, water and soil, and (b) materially contribute to more efficient utilization and conservation of energy resources. The basis for my belief is as follows:

2. The invention relates to a refuelable and/or regenerative fuel cell, which can replace diesel generators as back-up power sources for buildings when used as a back-up power device as described in the invention. Diesel generators generate a substantial amount of air pollution. This has motivated some cities, for example in California, to impose a moratorium on permits for diesel generators as back-up power sources for buildings. This is particularly remarkable given

that California in general, and the Bay Area in particular, has recently experienced rolling blackouts. Obviously, these cities are greatly concerned that the risk to the environment posed by a large number of these diesel generators coming on line at the same time, such as could occur if an area was subject to a rolling blackout, is serious and substantial. Given the serious disruption to a city caused by a rolling blackout, and the lack of other alternatives that are as attractive as refuelable and/or regenerative fuel cells in terms of cost, efficiency and environmental impact, it stands to reason then that these cities would be highly motivated to deploy refuelable and/or regenerative fuel cells as back-up power sources in lieu of diesel generators. By replacing polluting diesel generators, the refuelable and/or regenerative fuel cell is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air.

3. Diesel generators also consume quite a bit of lubricating oil given that they must have their oil changed quite often. The disposal of this oil can be extremely harmful to the environment as one quart of motor oil can render an entire reservoir unpalatable for drinking. By replacing diesel generators, the refuelable and/or regenerative fuel cell is also expected to eliminate the need for this oil, and therefore materially enhance the quality of the environment by contributing to the restoration and maintenance of water.

4. The refuelable and/or regenerative fuel cell is also expected to replace lead/acid batteries as a power source because of the significant environmental damage caused by the manufacture of lead/acid batteries, damage caused particularly by the mining, processing and recycling of lead, and the lack of any other alternatives as attractive as refuelable and/or regenerative fuel cells. By replacing lead/acid batteries, the refuelable and/or regenerative fuel cell is also expected to materially enhance the quality of the environment by reducing the damage to the earth caused by the mining of lead, and contributing to the restoration and maintenance of the soil.

5. The refuelable and/or regenerative fuel cell will also enable solar/wind power to replace power plants as the primary energy source for a substantial number of homes and businesses. The reason is that refuelable and/or regenerative fuel cells allow for the storage of energy in the form of metal fuel and fresh reaction solution or hydrogen, depending on the type of refuelable and/or regenerative fuel cell. These fuels can be reprocessed from spent reaction products whenever the solar or wind power is available. Later, when power is needed for a house or business, this power can be provided by the refuelable and/or regenerative fuel cell replenished by the reprocessed fuel and fresh reaction solution. Once enabled, solar/wind power is expected to replace power plants as the primary energy source for a substantial number of homes and businesses because it does not release pollutants into the air, is more efficient and less costly.

6. Power plants function by converting energy released through the burning of fossil fuels into power. The burning of fossil fuels in turn releases a substantial amount of pollutants into the air. By enabling solar/wind power to replace power plants as the primary energy source for a substantial number of homes and businesses, the refuelable and/or regenerative fuel cell is expected to materially enhance the quality of the environment by contributing to the restoration or maintenance of the air.

7. The invention also relates to a refuelable and/or regenerative fuel cell system in which a refuelable and/or regenerative fuel cell is interfaced to the power grid and to an energy controller in a home or business which controls one or more loads, e.g., elevators, lights, air conditioners, household appliances such as refrigerators, etc. During off-peak hours, when energy from the power grid is cheapest, the system may draw energy from the power grid in order to reprocess spent reaction solution and reaction products into metal fuel and fresh reaction solution. In addition, whenever energy is needed to drive the loads, the energy controller selectively draws energy from the refuelable and/or regenerative fuel cell to drive the one or more loads in an energy efficient manner. For example, the controller can automatically turn off lights and air conditioners during off-business hours and power them up again during business hours.

The ability of the system to store energy in the form of the fuel allows the two processes –the process of reprocessing spent reaction products and the process of driving one or more loads--to be decoupled from one another, i.e., performed substantially independently of one another.

8. The system is expected to increase the efficiency of the power grid in terms of wattage out divided by quantity of fossil fuel burned. The reason is that the system, because of its capability to store energy in the form of electrochemical fuel, and to decouple the processes of reprocessing spent reaction products and driving loads, is expected to result in more frequent use of base load power plants and less frequent use of peaking plants to drive the power grid. Since base load plants are more efficient than peaking plants, e.g., 60 % vs. 35 %, the result is an overall increase in the efficiency of the power grid.


9. To explain why this is so, consider a scenario such as a hot day where the demand exceeds the supply for power from base load power plants. Currently, the response to this scenario will be to power up the less efficient peaking plants to fill the gap between demand and supply. However, with the refuelable and/or regenerative fuel cell system, the response to this scenario is expected to be the use of the refuelable and/or regenerative fuel cell to fill the gap between demand and supply.

10. The increased efficiency of the power grid resulting from use of the system is expected to translate into the introduction of less pollutants into the air since less fossil fuel needs to be burned to provide the same power output. Consequently, the system is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air.

11. The increased efficiency of the power grid also means that the refuelable and/or regenerative fuel cell system is expected to materially contribute to the reduction of energy consumption in combustion systems, industrial equipment, household appliances, etc.

12. All statements made on the basis of personal knowledge are true, and all statements made on the basis of information and belief are believed to be true. Further, these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: March 15th, 2002



Jeffrey A. Colborn, Chairman/CEO
Metallic Power, Inc.



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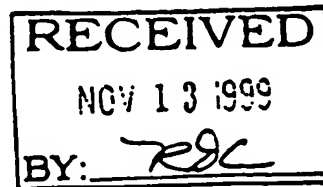
EXHIBIT B



UNITED STATES DEPARTMENT OF COMMERCE
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In re application of
Bernardo A. Gutierrez et al

Serial No.: 09/353,422
Filed: July 15, 1999
For: PARTICLE FEEDING APPARATUS
FOR ELECTROCHEMICAL POWER
SOURCE AND METHOD OF MAKING
SAME

DECISION ON PETITION
TO MAKE SPECIAL
UNDER M.P.E.P. 708.02 V

This is a decision on the petition filed on July 15, 1999, requesting that the above identified application be granted Special Status under Sections 37 C.F.R. 1.102 and M.P.E.P 708.02 V.

The petition has been considered and found to comply with the requirements set forth under the above noted section.

The petition is GRANTED.

Richard V. Fisher

Richard V. Fisher
Director, Technology Center 1700
Chemical and Materials Engineering

Richard D. Clarke
P.O. Box 1666
Spring Valley, CA 91979-1666

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JUL 13 2000

JUL 14 2000

WASHINGTON, D.C.

In re Application of
Jeffrey A. Colborn
Serial Number: 09/449,176
Filed: November 24, 1999
For: SYSTEM AND METHOD FOR PREVENTING
THE FORMATION OF DENDRITES IN A
METAL/AIR FUEL CELL, BATTERY OR METAL
RECOVERY APPARATUS

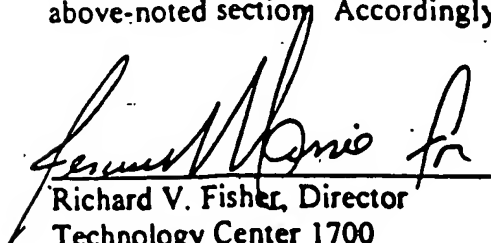


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DECISION
ON
PETITION

This is in response to the petition filed November 24, 1999, requesting that the above-identified application be granted Special Status under Section 708.02 (V) of the MPEP.

The petition has been considered and found to comply with the requirements set forth under the above-noted section. Accordingly the petition is granted.


Richard V. Fisher, Director
Technology Center 1700
Chemical and Materials Engineering

Robert C. Laurenson
Howrey, Simon, Arnold & White, LLP
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1299 Pennsylvania Avenue, NW
Washington, DC 20004-2402

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In re Application of
Martin Pinto et al
Serial Number: 09/521,392
Filed: March 8, 2000

WASHINGTON, D.C. :

For: REFUELABLE ELECTROCHEMICAL POWER :
SOURCE CAPABLE OF BEING MAINTAINED :
IN A SUBSTANTIALLY CONSTANT FULL :
CONDITION AND METHOD OF USING THE :
SAME :

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DECISION
ON
PETITION

This is in response to the petition filed March 8, 2000, requesting that the above-identified application be granted Special Status under Section 708.02 (V) of the MPEP.

The petition has been considered and found to comply with the requirements set forth under the above-noted section. Accordingly the petition is granted.

Richard V. Fisher

Richard V. Fisher, Director
Technology Center 1700
Chemical and Materials Engineering

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Howrey, Simon Arnold & White, LLP
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Page No.: 5
APP

In re application of
Martin Pinto
Stuart Smedley
Jeffrey Colborn
James Evans

Serial No.: 09/573,438
Filed: May 16, 2000
For: ELECTROLYZER AND METHOD
OF USING THE SAME

DECISION ON PETITION
TO MAKE SPECIAL
UNDER M.P.E.P. 708.02 V

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This is a decision on the petition filed on August 14, 2000, requesting that the above identified application be granted Special Status under Sections 37 C.F.R. 1.102 and M.P.E.P 708.02 V.

The petition has been considered and found to comply with the requirements set forth under the above noted section.

The petition is GRANTED.


Richard V. Fisher
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WASHINGTON, D.C.

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In re Application of: Jeffrey A. Colborn
Application No.: 09/627,742
Filed: July 28, 2000
For: SYSTEM AND METHOD FOR
POWER MANAGEMENT

DECISION ON PETITION
TO MAKE SPECIAL

This is a decision on the request for reconsideration, filed May 18, 2001 on the petition filed October 3, 2000 under 37 C.F.R. §102(c) and M.P.E.P. § 708.02(V): Environmental Quality, to make the above-identified application special. The request for reconsideration also includes an assertion that this application meets the criteria to be made special under M.P.E.P. § 708.02(VI): Energy.

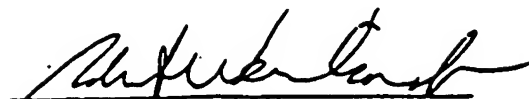
A grantable petition under 37 C.F.R. §1.102(c), and M.P.E.P. §708.02, Section (VI), must be accompanied by a showing that the application is for an invention which materially contributes to (A) the discovery or development of energy resources, or (B) the more efficient utilization and conservation of energy resources. Examples of inventions in category (A) would be developments in fossil fuels (natural gas, coal, and petroleum), nuclear energy, solar energy, etc. Category (B) would include inventions relating to the reduction of energy consumption in combustion systems, industrial equipment, household appliances etc. Such petitions should be accompanied by statements under 37 C.F.R. § 1.102 by the applicant, assignee, or an attorney/agent registered to practice before the Office explaining how the invention materially contributes to category (A) or (B) set forth above. No fee for such a petition is required. (See 37 C.F.R. §1.102(c) and M.P.E.P. §708.02(VI).)

Petitioner's submissions meet the criteria set out above with respect to M.P.E.P. §708.02(VI)(B), reduction of energy consumption. Accordingly, the petition is GRANTED.

The application file is being forwarded to the Examiner of Record for expedited examination.

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